

be so organized that there will be no lost motion during the period.

3. *Sanitation*: That good school house-keeping be practiced. That toilets be kept reasonably clean, the contents be protected from flies, and that daily inspection of the toilets be made by a faculty member. That water supply be made safe, and that common drinking cups be not used.

4. *Health Education*: That annual physical inspection be completed and a report sent to the Division Superintendent by October 30th for full term schools, and within two weeks after opening of short term schools. That individual record cards be properly filled out and kept on file. That emphasis be placed on the correctional program.

Daily inspection health record sheets and Who's Who charts are furnished by the State Department of Education.

That there be a demonstration of the year's activities on Health Day. That a Five-point State Certificate be awarded each child meeting this standard of physical fitness. That the term report on correction of physical defects be turned in with other final reports.

That our goal be: over 50% increase in number of Five-pointers over last year.

ELIOT V. GRAVES.

CAMPCRAFT FOR HIGH SCHOOLS

CAMPING and woodcraft are open and unexplored fields as a part of the physical education program in Virginia schools. We owe their growth and spread to the Scout and Camp Fire organizations, and to the work of summer camps. The experience and knowledge in their many associated activities, once passed along by word of mouth, are rapidly being incorporated into books in which the material is organized under separate headings convenient for our use. In view of the prevalence

of county and small town high schools in this state, the opportunity for incorporating woodcraft and camping into the physical education program seems to have peculiar advantages. We hear a great deal about education for leisure and out-of-school hours, as an objective in physical education. It is here that camping and woodcraft make their strongest claim. Again, we see a tendency on the part of American automobile owners to go to the country for picnics and motor camping and to take part in a variety of entertainments that involve eating out-of-doors. Here a little education of the younger generation in the methods of doing these things efficiently will prevent ruining beautiful picnicking spots by tin cans and cracker boxes, starting dangerous forest fires by careless would-be campers, and that feeling of disgust at trying to cook outdoors with smoke pouring in your well-heated face and at eating half-raw or burned food.

Woodcraft and camping are names that strike an enthusiastic response in practically every girl and boy. While receiving high practical and educational experiences, the pupil enters into it with the eagerness and energy of a new adventure. It is doing and living as well as learning new skills. For convenience in school organization the program may be divided into the following heads:

I. Nature Study

- A. Wild flowers
- B. Trees
- C. Ferns
- D. Birds
- E. Stars

II. Hiking

- A. Foot gear and clothing
- B. Fence climbing, mountain climbing
- C. Trail making
- D. Path finding
- E. Rests and drinking water.
- F. Prevention and treatment of blisters

III. Camp making

- A. Bough beds
- B. Bough shelters
- C. Putting up tents
- D. Bed making
- E. Pack rolling
- F. Poncho shelters
- G. Sweater and pack carrying
- H. Knot tying

IV. Camp cooking

- A. Fire place building
- B. Fire building and extinguishing
- C. Cooking utensils—hand made
- D. Foods suitable for outdoor cooking and methods of preparing them.
- E. Cleaning up after camping out.

This outline might be expanded indefinitely, but these seem to be the items most applicable to the teaching situation in Virginia. The fall of the year is good for day time outdoor work, but spring is best if any actual cooking outdoors is to be done, because of the length of days and better opportunity for observing birds, flowers, leaves, and ferns. The modern curriculum of physical education in Prussian secondary schools calls for a day excursion each month for the younger pupils and occasionally an overnight two-day hike for the pupils of senior high school age¹.

With our Saturdays free I see no reason why some such scheme might not be feasible in this country. The following outline for a class in senior high school is suggested for fall:

- I. One physical education period each week devoted to learning different campcraft skills—i. e., building types of fire places and fires, cleaning up, pack carrying, etc., according to the plans suggested in the units accompanying this paper.

- II. One or two Saturday mornings a month used for hiking—later extending into a luncheon hike involving cooking.

- III. Practical tests at the end of the season to ascertain the pupils' ability to demonstrate the skills correctly.

These may be worked out as individual or group tests. In the spring for junior high school the following plan might be carried out.

- I. One physical education period each week devoted to the study of birds, wild flowers, ferns, trees, the making of camping utensils such as toasting sticks, pot hooks, lug poles, bread toasters, etc., selection being based on local conditions.
- II. One or two hikes each month for further nature study, collecting, or building a picnicking ground as a class project. Each child could carry his own lunch.
- III. Group or individual tests on collections, articles made, and hiking efficiency.

For the senior high school pupil, an overnight hike forms the climax and best test of her ability to take care of herself out of doors. This of course will have to be a local matter; frequently there are cabins privately owned that may be secured under proper chaperonage, for such purposes.

The question is raised—who will buy the equipment such as pots and pans, tin cups and spoons? Until camping and woodcraft are considered an important enough phase of physical education to warrant the expenditure of the department money for such equipment, the good will and generosity of parents and stores will have to be depended upon—unless the individual supplies his own tin cup and spoon. Training pupils to be self-reliant and intelligent out of doors, interested in outdoor camping as a recreation, appreciative of the value and beauty of nature in its various and unmarred state, are justifications enough for

¹"The New Program of Physical Education for Girls in Prussian Secondary Schools," by Virginia Rath and Thomas Alexander. *Teachers College Record*, June, 1927.

adding camping and woodcraft to the physical education program.

[WORK SHEET FOR CAMP COOKING]

[Only sections A, B, and E under IV are here elaborated.]

A. Building a fire place—trench type.

Materials: Rocks, green sticks, scout knife.

1. Dig out a trench with sticks or a flat stone.
2. Point a stick with a knife.
3. Cut a green stick from a bush or tree without cutting one's fingers.
4. Arrange flat rocks on three sides of the fire place so they will stand firmly.
5. Drive the upright sticks into the ground so they form a firm support for the cross bar or lug pole.
6. Drive the upright sticks in so the height of the bar is correct for cooking purposes.

B. Building a fire—wigwam type.

Materials: Dry wood, matches, fire places previously built.

1. Select dry wood of different sizes.
2. Break long pieces up into suitable lengths.
3. Arrange wood for fire.
4. Light the fire with one match and have it catch and burn.
5. Put the fire out efficiently.
6. Find dry wood after a rain.
7. Select wood that will burn quickly.
8. Light a match in the wind.

E. Cleaning up after a camp meal.

1. Remove grease from frying pan by scrubbing with ashes or sand and washing in hot or cold water.
2. Beat tin cans flat with rocks.
3. Burn all burnable refuse.
4. Bury all unburnable refuse.
5. Leave the spot as clean as you found it.

II. Knowledge Gained

A. Building a fire place

1. Dirt can be loosened with a sharp stick and then scraped out with a

flat stone. This puts the fire slightly below the surface and prevents spreading, while giving it protection.

2. A knife stroke should always be in a direction away from the cutter and not toward him. A long slender point is more desirable than a short one.
3. The size of the stick should be judged carefully. The two upright forked sticks need not be green but must be straight, of equal length and have a strong crotch. The cross bar must be strong enough to support kettles and pans—about the size of a broom handle.
4. Rocks should protect the fire on three sides, leaving one side open. The back should protect the fire from the wind. Flat rocks are best for the sides but must be supported by dirt and other small rocks so they will stand alone and not collapse into the fire when touched.
5. Sticks may be driven into soft ground with rocks, but gently so as not to break the forks off, and deep enough so they are sturdy. In case of hard or rocky ground they must be supported by rocks.
6. The upright sticks must be cut to such a length that when driven firmly into the ground, the cross bar resting across them will allow the pots (hung onto it by their handles) to reach the hottest part of the fire.

B. Fire Building.

1. Dry wood is needed but decayed wood is of no use. Very small twigs of dry evergreen or birch bark make the best kindling. Wood of graded sizes is needed in starting a fire, for the smaller pieces must catch before the larger ones. Some green wood will burn after the fire is hot and going well. Dry wood catches more quickly but does not last as long.
2. Small branches can be broken in the

hand or across the knee. Pieces too thick for this can be split and broken by hitting them across a sharp rock (provided the wood is dry).

3. Make a stack of the smallest twigs or bark not much larger than matches. Lean slightly longer and larger sticks around them, and continue increasing the pieces in length until the wigwam formation is about 8 inches high.
 4. Air is essential to fire. Therefore the wood should not be crowded with pieces packed against each other. The smallest kindling should be easily caught with one match and these in turn will catch the larger pieces about them.
 5. Let the fire burn down. Rake all burning pieces into the center. If a stream is at hand pour water both on the fire and on the surrounding ground. Do not leave while there are sparks nor until smoke ceases to rise. In the absence of water, beat out the flames with green sticks, push the rocks on top of the smouldering sticks and smother with dirt or sand.
 6. Birch bark will burn after being soaked in water for hours. Dead branches on trees are comparatively dry and will burn when split. Fat pine will also burn under such conditions.
 7. The best fuel woods are hickory, chestnut-oak, white blackjack, post oak, pecan, apple, sugar maple, locust, yellow pine, white ash.
 8. Cup the hands, face the wind, and after striking the match, place it inside with the head of the match toward the wind so the flame will go up the match.
- E. Cleaning up
1. In the absence of dutch cleanser or soap, sand and ashes help cut the grease.

2. As they do not burn, tin cans must be buried. This is done more easily if they are flat.
3. All paper, vegetable peelings, boxes, etc., should be burned.
4. Egg shells, banana and orange peels require a long time to burn, hence should be buried with the tin cans.
5. Nothing you brought should be left lying about to mar the looks of the place.

III. Attitudes and Appreciations Developed

A. Building a fire place

1. Love and respect for out-of-doors.
2. Independence of electric stoves and electrically prepared food.
3. Self reliance in outdoor situations.

B. Fire building

1. Respect for the danger of fire and its usefulness.
2. Recognition of the comparative value of different woods for fire making.
3. Self reliance in fire building under unfavorable circumstances.
4. Knowledge that one can be as comfortably fed outdoors as indoors.

E. Cleaning up

1. Respect for the looks of the country side and desire to enjoy it but to leave it as beautiful as it was found.
2. Realization that cleaning up is less interesting but just as important a part of camping as the preparatory phases.
3. Desire to help eliminate the type of camping ground left by the average American picnicker.

IV. Bibliography

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